

# A KNOWLEDGE MANAGEMENT SYSTEM FOR GENERAL PRACTICE / FAMILY MEDICINE

## *HOW DOES IT WORK PRACTICALLY?*

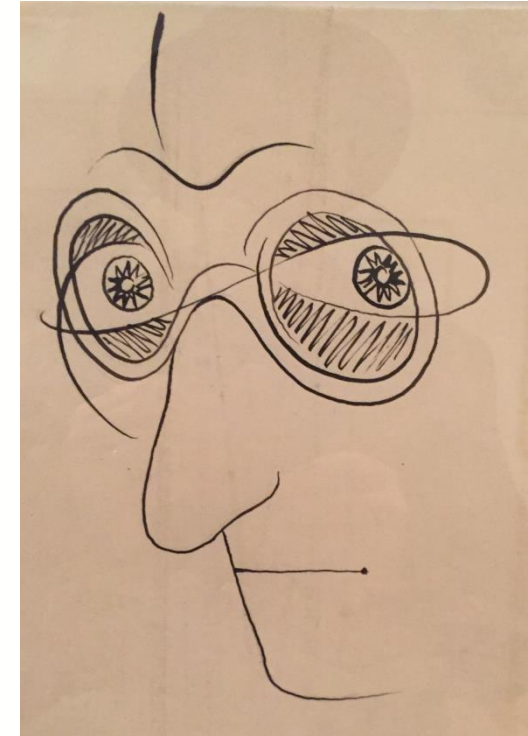
**Marc Jamouille** MD, PhD. Département de médecine générale.  
Université de Liège (ULg) & Department of Information and  
medical informatics (D2IM), CHU Rouen, France

**Patrick Ouvrard** MD. Société de Formation et Thérapeutique du  
Généraliste. Paris

**Julien Grosjean** PhD. Department of Information and medical  
informatics (D2IM), CHU Rouen, France

**Matthieu Schuurs** MD, PhD. Department of Information and  
medical informatics (D2IM), CHU Rouen, France

**Stefan Darmoni** MD, PhD. Department of Information and medical  
informatics (D2IM), CHU Rouen, France



Jose de Almada self-portrait.  
Porto. Museo Soares dos Reis.

05 - 07 AVRIL



12<sup>E</sup> CONGRÈS MÉDECINE GÉNÉRALE FRANCE  
Soins • Formation • Recherche

CMGF2018

Sous l'égide du  
COLLÈGE  
de la MÉDECINE  
GÉNÉRALE



#CMGF2018

# Objectives of workshop:

To find methods to facilitate indexing and to improve performance in information storage and retrieval of unpublished GP/FM scientific work

- Have a reflexion about possible tools:
  1. What tools could you use to make this possible (existing or fantasized tool)
  2. Why this is difficult

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# Method ( groups 30 mn)

- Brief presentation of the topic
- Participants will exchange in small groups and they must focus on 2 things:
  1. What tools could you use to make this possible (existing or fantasized tool)
  2. Why this is difficult
- Restitution in large group will follow, and experts will presents

We are using an abstract of a work presented at WONCA VDGM 2018

Ana Luisa Marcelino, Cátia Barão, Ana Isabel Silva, Candida Teixeira, Mariana Carvalho, Sara Santos. **Quality improvement in antibiotic prescription for uncomplicated lower urinary tract infections**. WONCA VDGM Porto, 2018

Easy to find back on the Internet enough to type VDGM and the title

But how gather similar presentations in Family medicine?

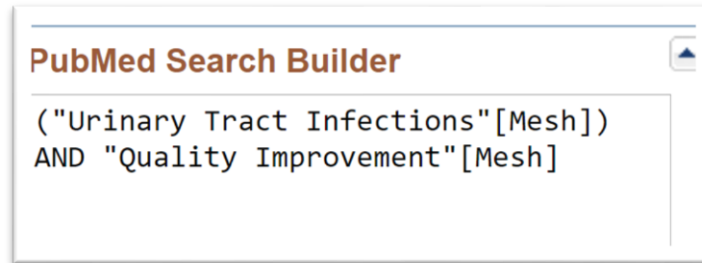
- First step: try with usual tool to find back the same issues
- Second step: learn to identify concepts at stake (indexing)
- Third step: try to identify concepts in one example using the two sheets and the HeTOP web site
- Fourth step: back to the whole group to show the indexing
- Fifth step: demonstration of the power of the search using Q-codes on HeTOP

## Firts step : usual tools

- Google : input VDGM + Title = 

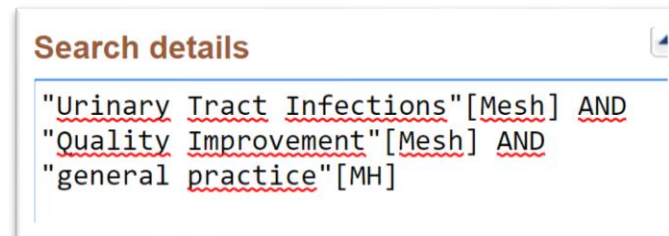
- Google scholar: input title in 

- MeSH thesaurus:



95 citations but not relevant to GP/FM

- Adding general practice:



0 citations

Identification of the concepts at stake

What are they talking about?

Focus on objective, population and methods,  
not on results

Title: Overdoing in community medicine: a case report coping with a renal incidentaloma.

Keywords: overdoing; overdiagnosis; overtreatment; renal incidentaloma.

Abstract: Case presentation: A 71 years-old lady with a 4 years history of NIDDM discovered on routine lab tests and a well-balanced hypothyroidism. No other findings on history, anamnesis or physical examination. Laboratory exam was normal except for HbA1c and glucose values. After 2 years of balanced diabetes using oral medications only, her HbA1c starts to rise. She was put on insulin, but remained unbalanced. Upon her request, she was referred to an endocrinologist who suggested performing an abdominal CT to rule out pancreatic involvement that might explain the new-onset treatment-resistant diabetes. Her abdominal CT showed no pancreatic or other abdominal organs pathologies, apart from a 1.5mm non homogenous, irregular solid process on the cortex of the right kidney.

**What are the  
keywords?  
(with a GP's  
eye)**

To understand the principle of indexing

To identify concepts at stake

To have a first contact with 3CGP and indexing process

## Core Content Classification in GP/FM

3CGP = ICPC + Q-Codes = clinical and contextual issues

<https://www.hetop.eu/3CGP>

Using two abstracts

Using the two double A4 pages

Try also the web site using the code found in the double sheet



- **Title:** Quality improvement in antibiotic prescription for uncomplicated lower urinary tract infections.
- **Keywords:** low urinary tract infections.
- **Introduction:** Lower urinary tract infections (LUTIs) are the 2nd most common bacterial infection in the community and the most common bacterial agent is *Escherichia coli* which has a high resistance rate to quinolones and sulfamethoxazole/trimethoprim. Portuguese national guidelines for primary healthcare are: nitrofurantoin, fosfomycin and amoxicillin/clavulanic acid.
- **Objective:** Assess guideline adherence for the empirical treatment of uncomplicated LUTI in primary care and the impact in prescription quality after local intervention.
- **Methods:** we establish 3 groups to study, group A before intervention, group B studied 10 days after intervention (awareness and information of primary care doctors) and group C was study 3 months after intervention. The sample included patients from 5 primary healthcare units in the westcoast region of Portugal diagnosed with uncomplicated LUTI. The search was made based on the electronic medical record system on ICPC-2 (International Classification of Primary Care).
- **Discussion:** The sample size was similar between the three groups. Fosfomycin was the most prescribed antibiotic drug. The rate of guideline adherence for the empirical treatment of uncomplicated LUTI was high in all 3 groups (Group A: 81.8%; Group B: 79.1%; Group C: 76.4%). After the intervention, the prescription rate of ciprofloxacin decreased, and this effect was maintained after 3 months. On the other hand, the prescription rate of other antibiotics (other than the first line drugs) increased. The study had some limitations, such as: was not possible to determine with certainty if the treatment prescribed was in fact empirical or either directed by results of antimicrobial susceptibility testing; study period might have been short; we were not able to assess the efficacy of the antibiotic treatment.
- **Conclusion:** Guideline adherence for the empirical treatment of uncomplicated LUTI is high and our results were superior to those described by similar national studies. The local intervention had no impact toward a higher guideline adherence. Ciprofloxacin and other antibiotics continue to be significantly prescribed.

**Title:** Discovering polygamy through infertility - a case report.

**Keywords:** polygamy; infertility; family medicine.

**Introduction:** Foreign patients present many challenges in our daily clinical practice. The religious, cultural and social contexts often differ from our reality and the language barrier is one of the biggest struggles. The project of parenthood is held by many people and the importance that each individual attributes to parenthood may be influenced by many factors, including cultural ones. Infertility is defined by the World Health Organization as a disease of the reproductive system defined by the failure to achieve a clinical pregnancy after twelve months or more of unprotected sexual intercourse.

**Goals:** With this case-report of a couple with infertility the authors aim to highlight difficulties in the clinical practice with foreign patients, particularly with patients from different cultural contexts and when there is a language barrier; to evidence the role of the family doctor in the foundation of a relationship of clinical proximity; and to contextualize polygamy in the portuguese law.

**Case description:** This is a couple from an african country: T., female , 37 years old (now 45) and M., male, 42 years old (now 50). Muslim religion. They began their follow up at our health unit in 2009. Since the first consultations there were communication difficulties: T. did not speak portuguese (only an african dialect) and M. spoke some portuguese and translated. In the first appointment with the couple, they intended to continue the infertility study they initiated in private practice. They were married for 20 years, had no children of their own and denied having children with other partners. They had no medical history other than infertility (reported 10 years before) and obesity. With the years, the language barrier diminished. Eight years and many myths, treatments, negative pregnancy tests, appointments and a perimenopausal amenorrhea later, T. continues to pursue the idea of getting pregnant and having a child. And at this stage, digging deeper, we discover that M. practices polygamy and has married two other women, with one of whom he has a child.

We have chosen those abstracts because, they concern family practice, are recent and done by your young colleagues

Quality improvement in antibiotic prescription for uncomplicated lower urinary tract infections

Discovering polygamy through infertility - a case report

Imagine you have assisted to those presentations. Now a friend is asking you; what they have talked about?

You will attempt to answer by addressing those points

1. Who is the target population?
2. What is the health problem if any?
3. What is the research domain?
4. How the answer has been searched for?

Concentrate on the essential, skip discussion and conclusion

# You receive a sheet of paper with the texts to analyse

- You are the indexers.
- You are in charge to describe the content as precisely as possible, preferably with a term found in the two A4 pages distributed
- First look to the main concepts at stake
- Then search on the two tables you have received
  - A list of clinical issues: ICPC
  - A list of contextual issues: Q-Codes

Split in groups

# Please split in groups of 4 to 5 people

- You have received a sheet with two exercises
- Use the two-fold sheet with Q-Codes and ICPC
- and <https://hetop.eu/Q>
- Try to answer to the four questions

Twenty minutes

Back to the whole group

## Listening to the proposals

1. Who is the target population?
2. What is the health problem if any?
3. What is the research domain?
4. How the answer has been searched for?

- **Title:** Quality improvement in antibiotic prescription for uncomplicated lower urinary tract infections.
- **Keywords:** low urinary tract infections.
- **Introduction:** Lower urinary tract infections (LUTIs) are the 2nd most common bacterial infection in the community and the most common bacterial agent is *Escherichia coli* which has a high resistance rate to quinolones and sulfamethoxazole/trimethoprim. Portuguese national guidelines for primary healthcare are: nitrofurantoin, fosfomycin and amoxicillin/clavulanic acid.
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# Example of answer; exercise 1

- **Title:** Quality improvement in antibiotic prescription for uncomplicated lower urinary tract infections.
- **Keywords:** low urinary tract infections.

1. Who is the target population?
2. What is the health problem if any? lower urinary tract infection
3. What is the research domain? Quality / Prescription
4. How the answer has been searched for?

Answer follow.

- **Introduction:** Lower urinary tract infections (LUTIs) are the 2nd most common bacterial infection in the community and the most common bacterial agent is Escherichia coli which has a high resistance rate to quinolones and sulfamethoxazole/trimethoprim. Portuguese **national guidelines** for **primary healthcare** are: nitrofurantoin, fosfomycin and amoxicillin/clavulanic acid.
- **Objective:** Assess **guideline** adherence for the empirical treatment of uncomplicated LUTI in primary care and the impact in prescription quality **after local intervention**
  1. Who is the target population? **primary healthcare**
  2. What is the health problem if any? **lower urinary tract infection**
  3. What is the research domain? **Quality / Prescription / guidelines**
  4. How the answer has been searched for? **after local intervention**



- **Methods:** we establish 3 groups to study, group A **before** intervention, group B studied 10 days **after intervention** (awareness and information of **primary care doctors**) and group C was study 3 months after intervention. The sample included patients from 5 primary healthcare units in the westcoast region of Portugal diagnosed with uncomplicated LUTI. The search was made based on the electronic medical record system on ICPC-2 (International Classification of Primary Care).

1. Who is the target population of the study? **primary healthcare / primary care doctors**
2. What is the health problem if any? **lower urinary tract infection**
3. What is the research domain? **Quality / Prescription / guidelines**
4. How the answer has been searched for? **before-after local intervention / EMRs / ICPC**

# Looking for coded answers

1. Who is the target population of the study?

primary healthcare

**QS1 Primary care setting**

2. What is the health problem if any?

lower urinary tract infection

**ICPC : U71 lower urinary tract infection**

3. What is the research domain?

Quality / Prescription / guidelines

**QP3 quality of health care**

**QD325 prescribing behaviour**

**QT32 guideline**

4. How the answer has been searched for? before-after local

intervention / EMRs / ICPC

**QR325 intervention study**

**QS13 health information management**

**QR51 taxonomy**

2 **Title:** Discovering polygamy through infertility - a case report.

**Keywords:** polygamy; infertility; family medicine.

**Introduction:** Foreign patients present many challenges in our daily clinical practice. The religious, cultural and social contexts often differ from our reality and the language barrier is one of the biggest struggles. The project of parenthood is held by many people and the importance that each individual attributes to parenthood may be influenced by many factors, including cultural ones. Infertility is defined by the World Health Organization as a disease of the reproductive system defined by the failure to achieve a clinical pregnancy after twelve months or more of unprotected sexual intercourse.

**Goals:** With this case-report of a couple with infertility the authors aim to highlight difficulties in the clinical practice with foreign patients, particularly with patients from different cultural contexts and when there is a language barrier; to evidence the role of the family doctor in the foundation of a relationship of clinical proximity; and to contextualize polygamy in the portuguese law.

**Case description:** This is a couple from an african country: T., female , 37 years old (now 45) and M., male, 42 years old (now 50). Muslim religion. They began their follow up at our health unit in 2009. Since the first consultations there were communication difficulties: T. did not speak portuguese (only an african dialect) and M. spoke some portuguese and translated. In the first appointment with the couple, they intended to continue the infertility study they initiated in private practice. They were married for 20 years, had no children of their own and denied having children with other partners. They had no medical history other than infertility (reported 10 years before) and obesity. With the years, the language barrier diminished. Eight years and many myths, treatments, negative pregnancy tests, appointments and a perimenopausal amenorrhea later, T. continues to pursue the idea of getting pregnant and having a child. And at this stage, digging deeper, we discover that M. practices polygamy and has married two other women, with one of whom he has a child.

# Example of answer ; exercise 2

**Title:** Discovering polygamy through infertility - a case report

**Keywords:** polygamy; infertility; family medicine

1. Who is the target population?
2. What is the health problem if any? Infertility female
3. What is the research domain? Family medicine/ Patient culture
4. How the answer has been searched for? case report

Answer follow.

**Introduction:** Foreign patients present many challenges in our daily clinical practice. The **religious, cultural and social** contexts often differ from our reality and the language barrier is one of the biggest struggles. The project of parenthood is held by many people and the importance that each individual attributes to parenthood may be influenced by many factors, including cultural ones. **Infertility** is defined by the World Health Organization as a disease of the reproductive system defined by the failure to achieve a clinical pregnancy after twelve months or more of unprotected sexual intercourse.

**Objective:** With this **case-report** of a couple with infertility the authors aim to highlight difficulties in the clinical practice with foreign patients, particularly with **patients from different cultural contexts** and when there is a language barrier; **to evidence the role of the family doctor** in the foundation of a **relationship** of clinical proximity; and to contextualize polygamy in the portuguese law.

1. Who is the target population? **patients from different cultural contexts /primary healthcare**
2. What is the health problem if any? **Infertility**
3. What is the research domain? **Patient culture / relationships**
4. How the answer has been searched for? **Case report**

# Case description

This is a couple from an african country: T., female , 37 years old (now 45) and M., male, 42 years old (now 50). Muslim religion. They began their follow up at our health unit in 2009. Since the first consultations there were **communication** difficulties: T. did not speak portuguese (only an african dialect) and M. spoke some portuguese and translated. In the first appointment with the couple, they intended to continue the infertility study they initiated in private practice. They were married for 20 years, had no children of their own and denied having children with other partners. They had no medical history other than infertility (reported 10 years before) and obesity. With the years, the language barrier diminished. Eight years and many myths, treatments, negative pregnancy tests, appointments and a perimenopausal amenorrhea later, T. continues to pursue the idea of getting pregnant and having a child. And at this stage, digging deeper, we discover that M. practices polygamy and has married two other women, with one of whom he has a child.

1. Who is the target population? **patients from different cultural context /primary healthcare**
2. What is the health problem if any? **Infertility**
3. What is the research domain? **Patient culture / relationship / communication**
4. How the answer has been searched for? **Case report**

# Looking for coded answers

1. Who is the target population of the study?

patients from different cultural context /primary healthcare

**QS1 Primary care setting**

**QC32 Refugees & migrants**

2. What is the health problem if any?

infertility

**ICPC : W15 Infertility/Subfertility female**

3. What is the research domain?

Patient culture / Relationship / communication

**QP44 Patient cultural background**

**ICPC: Z04 Social-cultural problem**

**QP23 Cultural competency**

**QD12 Doctor-patient relationships**

**QD123 Communication**

4. How the answer has been searched for?

Case report

**QR 36 Case report**

Now using those keywords to look for literature

access to a complex terminological  
record for each concept with an  
access to PubMed

Using the multiterminological  
server of the University hospital  
of Rouen, France



- HeTOP is a multilingual multiterminological resource
- HeTOP could be used as a search tool for bibliography on PubMed and LiSSa
- Each item of knowledge in HeTOP is expressed in OWL and fit for automatic computer processing (Natural Language Processing)
- Knowledge in HeTOP is used to automatically to explore resources in text or document of EMRs or Hospital based data, only in French
- Automatic analysis of content of congress will be possible (in French so far)

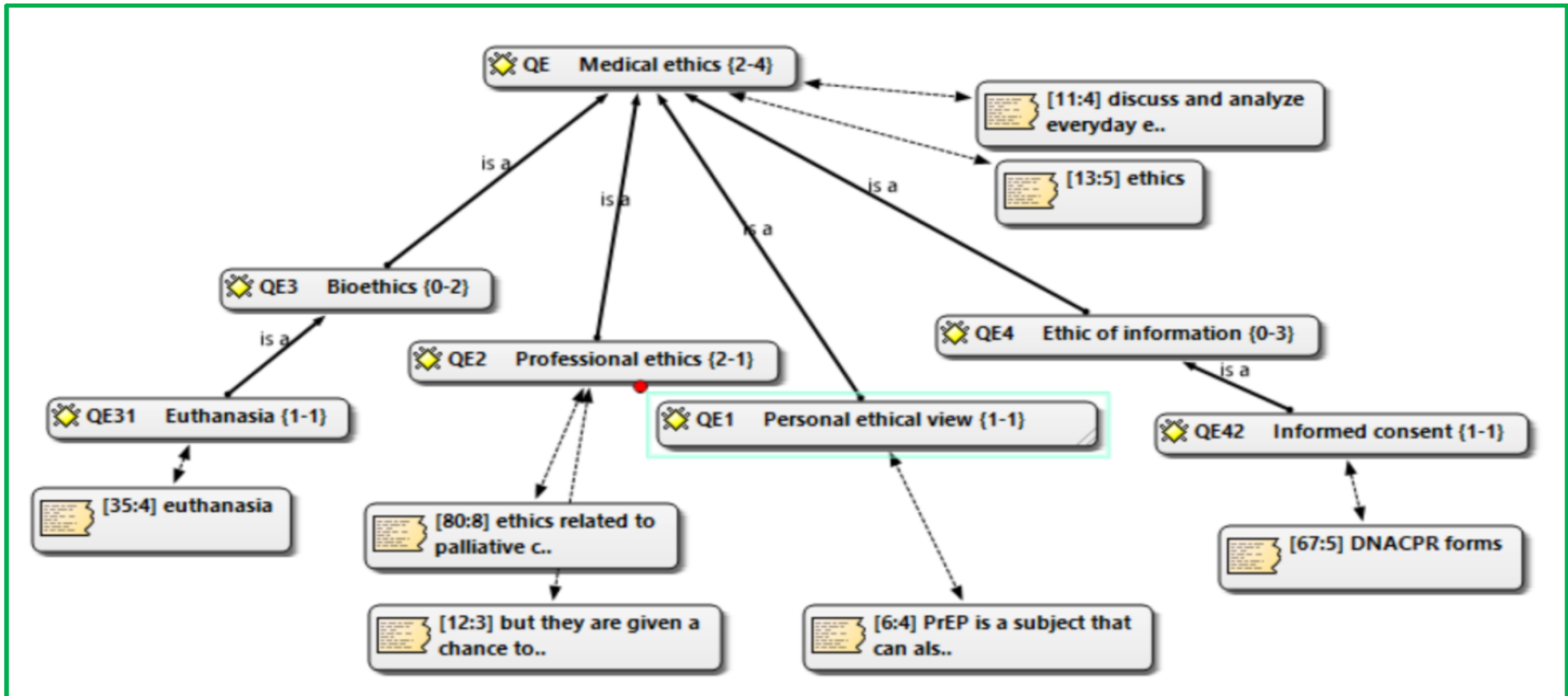
Exploring HeTOP : <https://hetop.eu/3CGP>

# Example of use of 3CGP

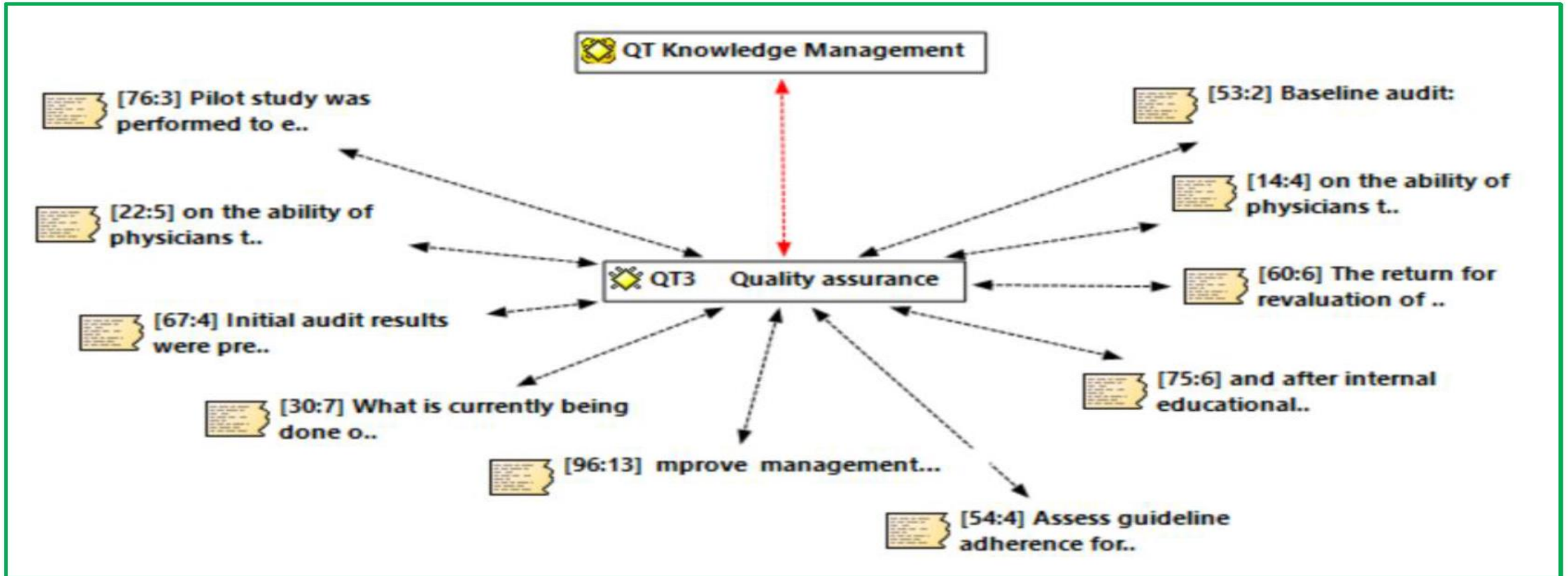
Some slides from the full analysis of the whole VDGM 2018 congress (97 communications) available at ;

Jamouille, M. (2018). *Report to the VDGM group. Qualitative analysis of the communications to the WONCA group Vasco De Gama annual meeting 2018, Porto, Portugal.*

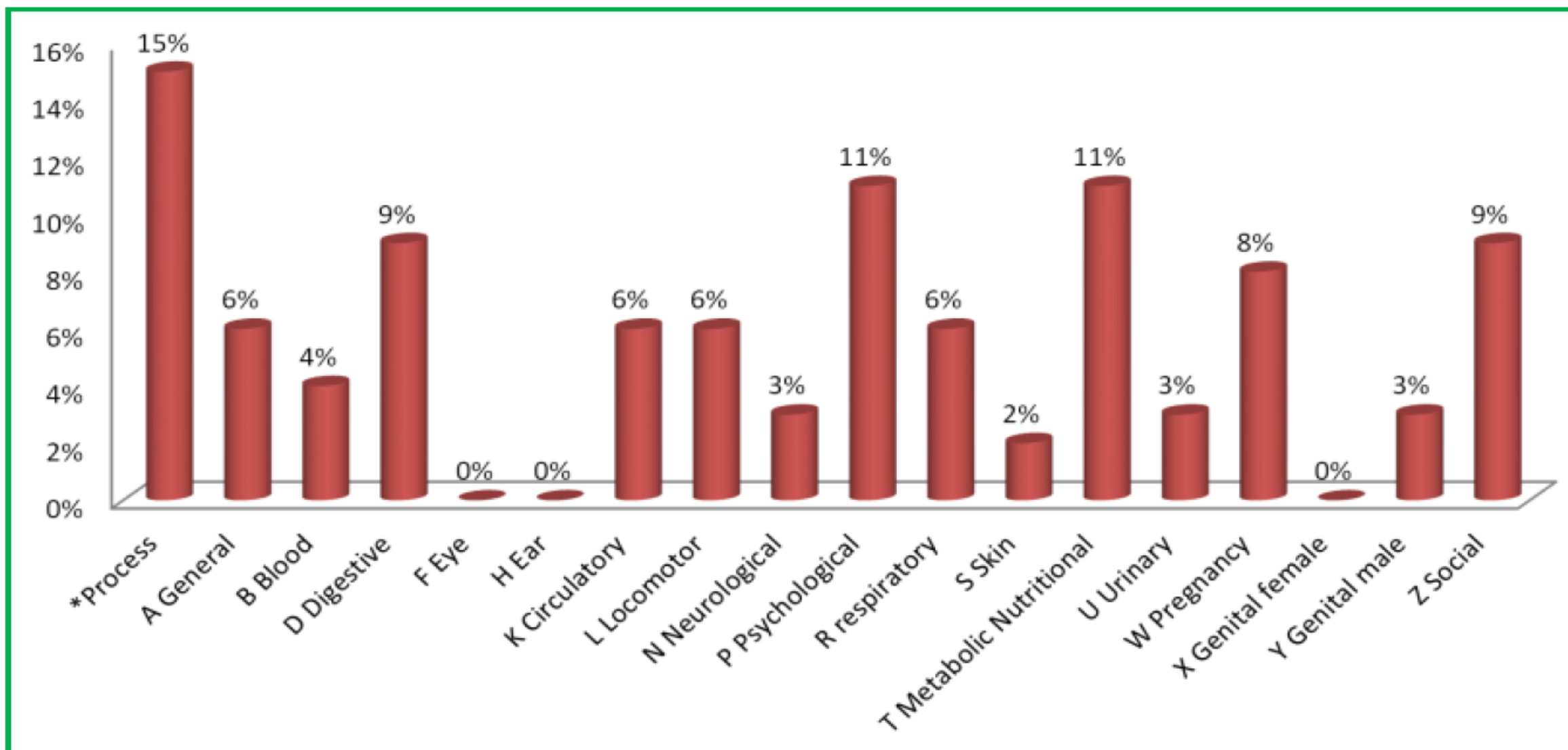
<https://orbi.uliege.be/handle/2268/217828>



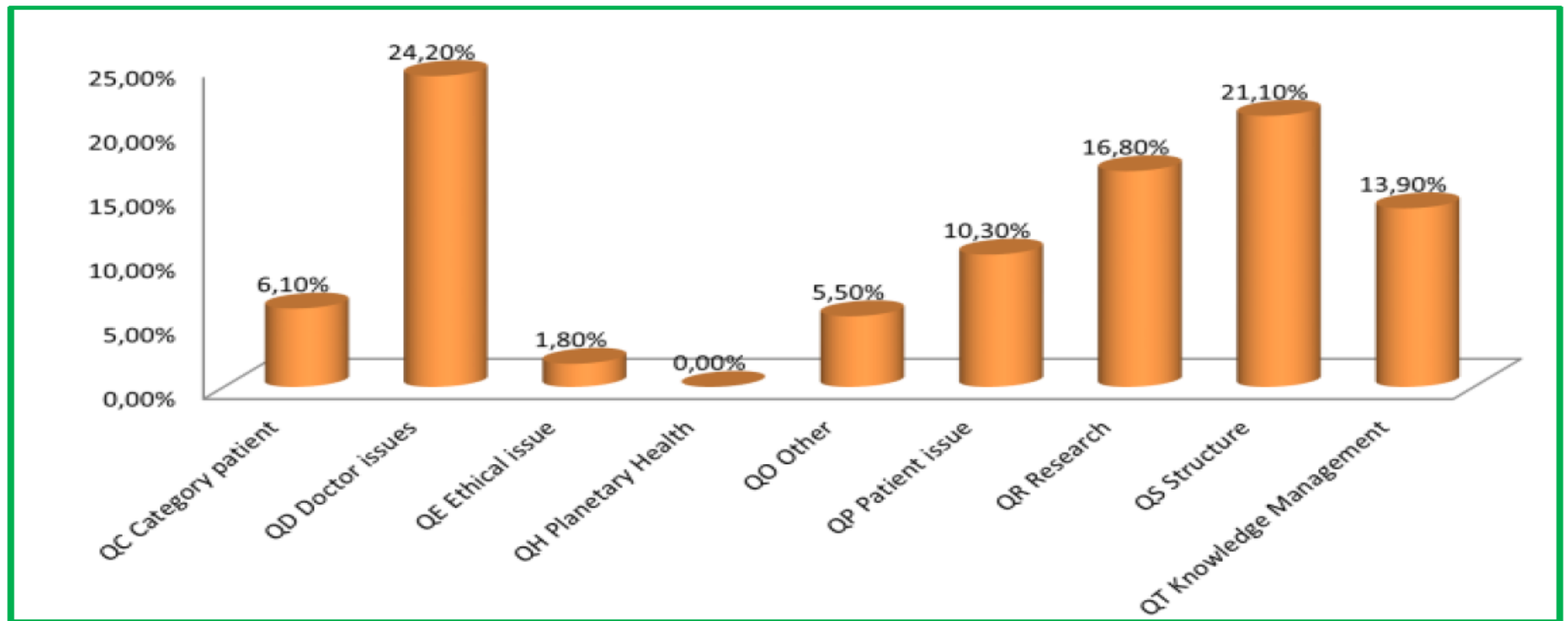
VDGM 2018 7 communications addressing ethical issues



VDGM 2018 10 communications addressing Quality Assurance



**Figure 5 Clinical concepts addressed in the VDGM 2018 communications. 102 coding for 79 codes. (Expressed in % of ICPC-2 chapter)**



**Figure 6 Contextual concepts (380 coding) addressed in the 97 VDGM 2018 communications. Number of coding and % of Q-Codes domains.**

FIGURE 1.73: Distribution of 755 ICPC codes in 1746 abstracts accepted (384 oral presentations and 1,362 posters) (SBMFC – Curitiba – 2017) Importance of A (prevention), P (psychological), T (metabolic and nutritional) & Z (social problems) in the themes discussed.  
(Data: courtesy of Daniel Knupp, SBMFC)

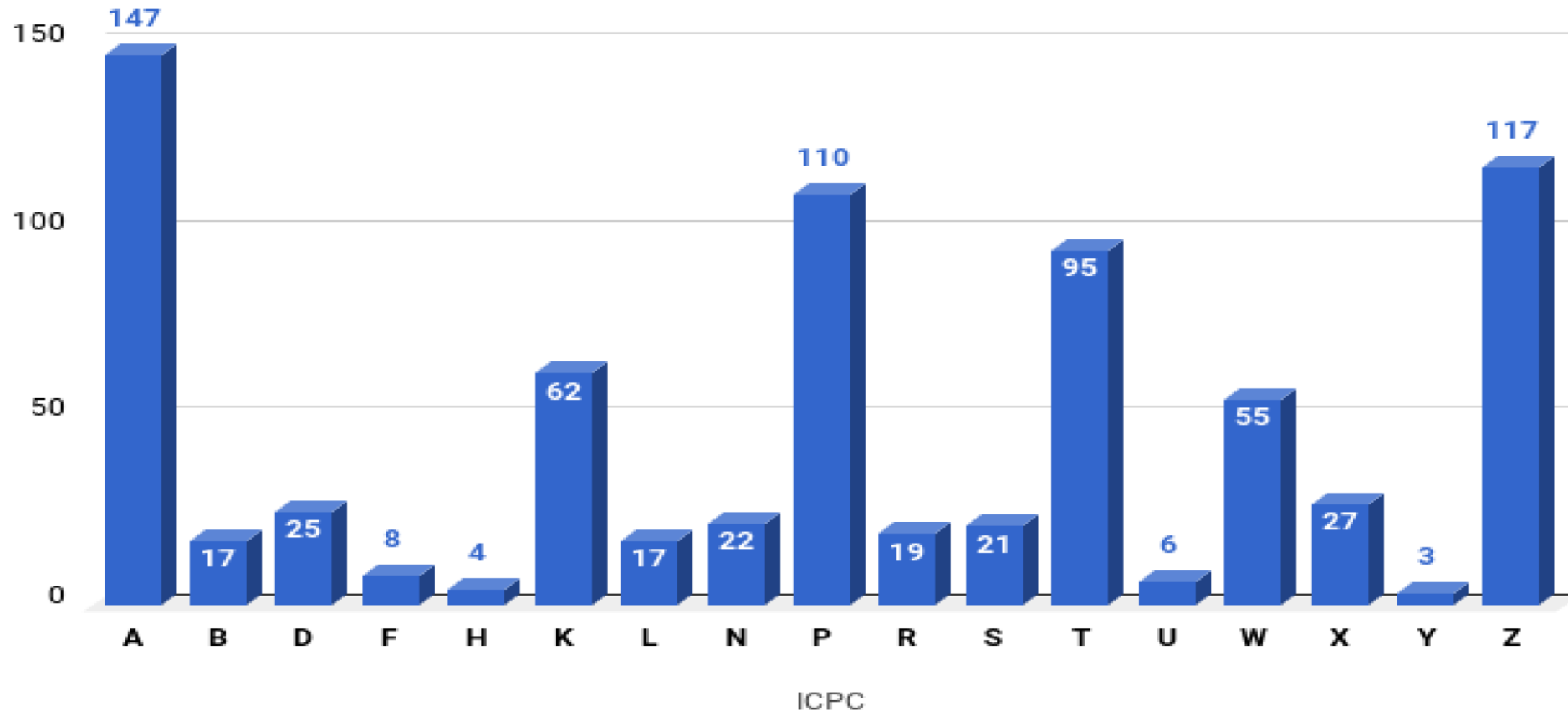
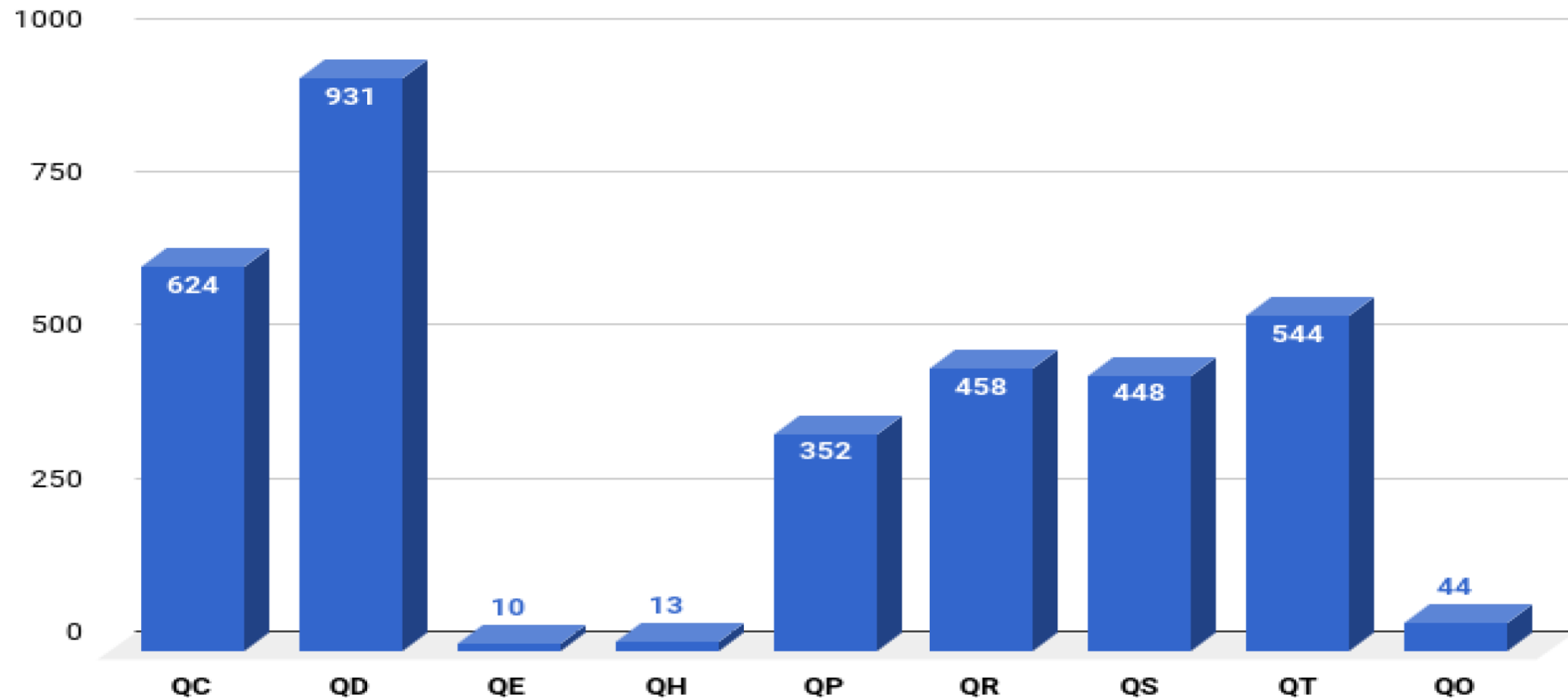


FIGURE 1.74: Distribution of 3,424 Q-Codes in 1746 abstracts accepted (384 oral presentations and 1362 posters) (SBMFC – Curitiba – 2017). Scarcity of ethical themes (QE) and Environmental problems (QH).  
(Data: courtesy of Daniel Knupp, SBMFC)





Extracteur de Concepts Multi-Terminologique (ECMT v3)

[How-to](#) - [Contact](#) - © 2017 CHU de Rouen - CISMéF.

On sait que la médecine de famille et les soins de santé primaires (SSP) partagent les concepts de continuité, globalité et accessibilité des soins. Toutefois on a montré que les SSP concernent la structure des pratiques tandis que la médecine de famille concerne la gestion d'un métier bien qu'ils prônent tous deux la prise de décision partagée dans la relation médecin patient

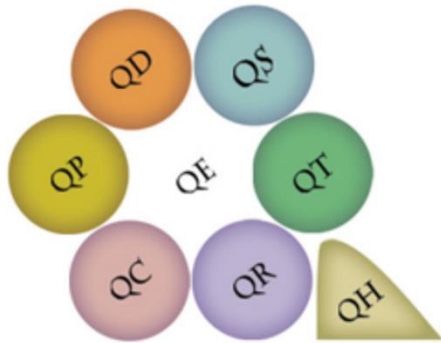
Effacer 2 phrases annotées en 182 ms. 125 codes distincts identifiés.

On sait que la médecine de famille et les soins de santé primaire (SSP) partagent les concepts de continuité, globalité et accessibilité des soins. Toutefois on a montré que les SSP concernent la structure des pratiques tandis que la médecine de famille concerne la gestion d'un métier bien qu'ils prônent tous deux la prise de décision partagée dans la relation médecin patient

postes de direction	NCI	C97639
Pratique médicale	TSP	MT12
prestations des soins de santé	MSH	D003695
primaire	NCI	C25251
principal	SNO	G-A332
prise	NCI	C71688
prise	IUP	UT06806
Prise de décision	MSH	M0005721
prise de décision	MSH	D003657
Prise de décision partagée	MSH	M0556740
professions	MSH	D009790
QD12 relation médecin-patient	CGP	QD12
QD21 résolution de problèmes	CGP	QD21
QD22 globalité	CGP	QD22
QD25 continuité des soins	CGP	QD25
QD323 prise de décision partagée	CGP	QD323
QP enjeu du patient	CGP	QP
QP21 accessibilité	CGP	QP21
QS structure de la pratique	CGP	QS
QS1 établissement de soins primaires	CGP	QS1
QS11 gestion de la pratique	CGP	QS11
QS41 médecin de famille	CGP	QS41
régimes de soins	SCT	225365006
relation	NCI	C43570
Relation médecin malade	TSP	010271
relations	SCT	263498003
relations	SCT	272151006

# All the material of this workshop is available on

- <http://3cgp.docpatient.net/>



Marc Jamouille MD, PhD  
CORE CONTENT CLASSIFICATION IN  
GENERAL PRACTICE / FAMILY MEDICINE



WELCOME !

THE Q-CODES

ICPC-2

THE HETOP WEB SERVER

TERMINOLOGY IN GP/FM

IMPLEMENTATION OF Q-CODES

CONTACT

Thank you !